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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,453	01/09/2002	Masanori Miyoshi	503.41022X00	2617

24956 7590 02/04/2008

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EXAMINER	
DESHPANDE, KALYAN K	

ART UNIT	PAPER NUMBER
3623	

MAIL DATE	DELIVERY MODE
02/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/040,453	MIYOSHI ET AL.	
	Examiner	Art Unit	
	Kalyan K. Deshpande	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-6 and 15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-6 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. The following is a non-final office action in response to the communications received on October 9, 2007. Applicant's amendment filed October 9, 2007 amended claims 2-6 and 15 and canceled claims 1 and 7-14. Currently Claims 2-6 and 15 are now pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 9, 2007 has been entered.

Response to Amendments

3. Applicants' amendments to claims 2-4, 6, and 15 are acknowledged. Applicants' cancellation of claim 1 is acknowledged. Per Applicants' amendments, the previously asserted claim objections are withdrawn.

Response to Arguments

4. Applicants' arguments filed on October 9, 2007 have been fully considered but are not found persuasive. Applicants' argue i) Dabbiere, Grajo, and Brandeau fail to teach "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of

values as said movement cost, each of said values being calculated by multiplying a time unit price specific to one of said plurality of moving means for moving said identified moving body from one location to another location by a time period required for said movement" and "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line" (see Remarks page 8), ii) Dabbiere, Grajo, and Brandeau fail to teach "a flow line-measuring means for measuring a flow line of a moving body by detecting said moving body in a facility to be monitored and outputting flow line information based on said measuring of said flow line" (see Remarks page 9), and iii) Dabbiere and Grajo fail to teach "management information generating means having moving body identifying means for identifying said moving body, and movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information" (see Remarks pages 8-9).

In response to Applicants' argument Dabbiere, Grajo, and Brandeau fail to teach "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to one of said plurality of moving means for moving said identified moving body from one location to another location by a time period required for said movement" and "the time unit price is a value corresponding to the cost of moving the moving body

per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line", Examiner respectfully disagrees.

Grajo, in an analogous art, teaches "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates for each of the plurality of sections a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to one of said plurality of moving means for moving said identified moving body from one location to another location by a time period required for said movement" (see Grajo p. 510 abstract, p. 510 column 1 paragraphs 2-3, p. 510 column 2 paragraphs 2-3, p. 511 column 2 paragraphs 3-4, p. 512 column 1 paragraphs 4-6, p. 512 column 2 paragraphs 3-5, p. 513 column 2 paragraphs 2-6; where the software sums the flows and thereby determines the weighted sum of the flows since each of the flows are multiplied with a weighted values such as cost. These values are determined using movement costs parameters. The system accounts for a plurality of sections of not only a single level facility, but multiple level facilities. Each of the movements between sections is a movement from one location to another.).

Brandeau, in an analogous art, teaches "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line" (see Brandeau p. 646 paragraph 4 and p. 647 paragraphs 1-2; where the time unit price is a cost moving parameter that is calculated using either a distance cost parameter or a time cost parameter such that the time or distance costs are optimally

minimized.). The advantage of these steps is that they clearly enable a user to design or redesign an optimal floor layout for a facility.

It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the features of "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to one of said plurality of moving means for moving said identified moving body from one location to another location by a time period required for said movement" and "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line" taught by Grajo and Brandeau to Dabbiere in order to clearly design or redesign an optimal floor layout for a facility, which are a goals of Grajo and Brandeau (see Grajo p. 510 and Brandeau pp. 645-646).

Furthermore, Applicants' arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

In response to Applicants' argument Dabbiere, Grajo, or Brandeau fail to teach "a flow line-measuring means for measuring a flow line of a moving body by detecting said moving body in a facility to be monitored and outputting flow line information based on said measuring of said flow line", Examiner respectfully disagrees.

Dabbiere explicitly teaches "a flow line-measuring means for measuring a flow line of a moving body by detecting said moving body in a facility to be monitored and outputting flow line information based on said measuring of said flow line" (see Dabbiere column 3 lines 17-55 and figures 1 and 2; where the flow of equipment is monitored and is output by transmitting the information.).

Furthermore, Applicants' arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

In response to Applicants argument Dabbiere and Grajo fail to teach "management information generating means having moving body identifying means for identifying said moving body, and movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information", Examiner respectfully disagrees.

Dabbiere teaches "a management information generating means for producing management information for management from said flow line information" (see column 3 lines 12-35 and figures 1 and 2; where the monitoring of equipment provides management with information to scrutinize and analyze.). Dabbiere fails to teach "movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information". Grajo, in an analogous art, teaches "movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information" (see Grajo p. 510 column 2 paragraph

3 and p. 513 column 1 paragraph 1; where the cost of moving the moving body is calculated based on the sum of all flows.).). The advantage of these steps is that they clearly enable a user to design or redesign an optimal floor layout for a facility. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information" taught by Grajo to Dabbiere in order to enable a user to design or redesign an optimal floor layout for a facility, which is a goal of Grajo (see Grajo p. 510).

Furthermore, Applicants' arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Claim Objections

5. Claim 15 is objected to because of the following informalities: as being an improper independent claim. Claim 15 incorporates the system of claim 2 on to a memory medium. Examiner suggests that claim 15 to positively recite the system limitations on a memory medium.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2 and 4-6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabbiere (U.S. Patent No. 6965876) in view of Grajo (Grajo, Eric; "Strategic Layout Planning and Simulation for Lean Manufacturing: A LayOPT Tutorial", *Proceedings of the 1995 Winter Simulation Conference*, 1995) and in further view of Brandeau et al. (Brandeau, Margaret L.; Chiu, Samuel S.; "An Overview of Representative Problems in Location Research", *Management Science*, June 1989).

As per claim 2, Dabbiere teaches "a facility management system comprising: a flow line-measuring means for measuring a flow line of a moving body by detecting said moving body in a facility to be monitored and outputting flow line information based on said measuring of said flow line" (see Dabbiere column 3 lines 17-55 and figures 1 and 2; where the flow of equipment is monitored and is output by transmitting the information.), "a management information generating means for producing management information for management from said flow line information" (see Dabbiere column 3 lines 12-35 and figures 1 and 2; where the monitoring of equipment provides management with information to scrutinize and analyze.), and "wherein said management information generating means comprises: moving body identifying means for identifying said moving body from one location to another location" (see Dabbiere column 3 lines 17-35; where the object moving is identified and tracked from one location to another.). .

Dabbiere fails to explicitly teach "movement cost-calculating means for calculating a cost expended on movement of said moving body from one location to another location by the moving means based on the flow line information", "the flow line

includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to one of said plurality of moving means for moving said identified moving body from one location to another location by a time period required for said movement", and "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line".

Grajo, in an analogous art, teaches "movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information", Grajo, in an analogous art, teaches "movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information" (see Grajo p. 510 column 2 paragraph 3 and p. 513 column 1 paragraph 1; where the cost of moving the moving body is calculated based on the sum of all flows.), "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates for each of the plurality of sections a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to one of said plurality of moving means for moving said identified moving body from one location to another location by a time period required for said movement" (see Grajo p. 510 abstract, p. 510 column 1 paragraphs 2-3, p. 510 column 2 paragraphs 2-3, p. 511 column 2 paragraphs 3-4, p. 512 column 1 paragraphs 4-6, p. 512 column 2 paragraphs 3-5, p. 513 column 2

paragraphs 2-6; where the software sums the flows and thereby determines the weighted sum of the flows. These values are determined using movement costs parameters. The system accounts for a plurality of sections of not only a single level facility, but multiple level facilities. Each of the movements between sections is a movement from one location to another.).

Brandeau, in an analogous art, teaches "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line" (see Brandeau p. 646 paragraph 4 and p. 647 paragraphs 1-2; where the time unit price is a cost moving parameter that is calculated using either a distance cost parameter or a time cost parameter such that the time or distance costs are optimally minimized.). The advantage of these steps is that they clearly enable a user to design or redesign an optimal floor layout for a facility.

It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the features of "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to one of said plurality of moving means for moving said identified moving body from one location to another location by a time period required for said movement" and "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said

flow line" taught by Grajo and Brandeau to Dabbiere in order to clearly design or redesign an optimal floor layout for a facility, which are a goals of Grajo and Brandeau (see Grajo p. 510 and Brandeau pp. 645-646).

As per claim 4, Dabbiere fails to explicitly teach "said management information generating means comprises a movement cost-evaluating means for judging whether or not a cost calculated by said movement cost-calculating means is within a permissible range and an alarm outputting means for generating an alarm when said movement cost-evaluating means judges that the cost calculated by said movement cost-calculating means is outside permissible range". Grajo teaches "said management information generating means comprises a movement cost-evaluating means for judging whether or not a cost calculated by said movement cost-calculating means is within a permissible range" (see Grajo pp. 513-514; where the optimization looks to discover a layout with between 50-80% increase in efficiency. The 50-80% is an acceptable range.).

Grajo and Dabbiere fail to teach "an alarm outputting means for generating an alarm when said movement cost-evaluating means judges that the cost calculated by said movement cost-calculating means is outside permissible range."

Examiner takes official notice and submits that it is old and well-known in the art to enable an alarm when collected values are outside of a pre-determined permissible range. The advantage of these steps is that it enables one of ordinary skill in the art to select an optimization layout plan that is within an acceptable range of efficiency.

It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the features of "said management information generating means comprises a movement cost-evaluating means for judging whether or not a cost calculated by said movement cost-calculating means is within a permissible range" taught by Grajo and "an alarm outputting means for generating an alarm when said movement cost-evaluating means judges that the cost calculated by said movement cost-calculating means is outside permissible range" which is old and well-known, to Dabbiere in order to select an optimization plan that is acceptable, which is a goal of Grajo (see pp. 513-514).

As per claim 5, Dabbiere fails to explicitly teach "said management information generating means comprises a facility layout-optimizing means for optimizing a layout of said facility so as to minimize said movement cost".

Grajo teaches "said management information generating means comprises a facility layout-optimizing means for optimizing a layout of said facility so as to minimize said movement cost" (see Grajo p. 513; where the gather information and values is used to minimize movement costs.). The advantage of this steps is that it clearly enables a user to design or redesign an optimal floor layout for a facility.

It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "said management information generating means comprises a facility layout-optimizing means for optimizing a layout of said facility so as to minimize said movement cost" taught by Grajo to Dabbiere in order to clearly design or redesign an optimal floor layout for a facility, which is a goal of Grajo (see p. 510).

As per claim 6, Dabbiere teaches:

A facility management system according to claim 2, wherein said flow line-measuring means installed in said facility to be monitored and said management information generating means installed in a monitoring center are connected to each other through a communication network (see column 3 lines 40-50 and figure 1; where the flow measuring object is installed in the facility and is connected to the system via a radio communication frequency network.).

As per claim 15, Dabbiere teaches:

A memory medium, which stores a program realizing claim 2 on a computer (see figure 1; where the program is stored on a computer.). Further claim 15 recites similar limitations to Claim 1 and is therefore rejected using the same art and rationale as applied in the rejection of Claim 1.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dabbiere (U.S. Patent No. 6965876) in view of Grajo (Grajo, Eric; "Strategic Layout Planning and Simulation for Lean Manufacturing: A LayOPT Tutorial", *Proceedings of the 1995 Winter Simulation Conference*, 1995).

As per claim 3, Dabbiere teaches:

A facility management system comprising

a flow line-measuring means for measuring a flow line of a moving body by detecting said moving body in a facility to be monitored and outputting flow line information based on said measuring of said flow line (see column 3 lines 17-55 and

figures 1 and 2; where the flow of equipment is monitored and is output by transmitting the information.); and

a management information generating means for producing management information for management from said flow line information (see column 3 lines 12-35 and figures 1 and 2; where the monitoring of equipment provides management with information to scrutinize and analyze.), wherein

wherein said management information generating means comprises:

moving means identifying means for identifying one of a plurality of a moving means for moving said moving body from one location to another location (see column 3 lines 17-35; where the object moving is identified and tracked from one location to another.); and

movement cost-calculating means for calculating a cost expended on movement of said moving body from one location to another based on said flow line information (see column 3 lines 1-5 and figure 3; where data is analyzed to determine the productivity of the moving body moving from one location to another. Determining the productivity is the same as determining an expended cost.).

Dabbiere fails to explicitly teach "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a distance unit price specific to said identified moving means by a moving distance".

Grajo teaches "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a distance unit price specific to said identified moving means by a moving distance" (see Grajo p. 510 abstract, p. 510 column 1 paragraphs 2-3, p. 510 column 2 paragraphs 2-3, p. 511 column 2 paragraphs 3-4, p. 512 column 1 paragraphs 4-6, p. 512 column 2 paragraphs 3-5, p. 513 column 2 paragraphs 2-6; where the software sums the flows and thereby determines the weighted sum of the flows since each of the flows are multiplied with a weighted values such as cost . These values are determined using movement costs parameters. The system accounts for a plurality of sections of not only a single level facility, but multiple level facilities. The parameter of interest in Grajo is the distance price unit, where optimal layouts are controlled by the distance between sections.). The advantage of this step is that it enables a user to design or redesign an optimal floor layout for a facility while considering teach flow constraint.

It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a distance unit price specific to said identified moving means by a moving distance" taught by Grajo to Dabbiere in order to design or redesign an optimal floor layout for a facility while considering teach flow constraint, which is a goal of Grajo (see p. 510).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571)272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kkd

/Scott L Jarrett/

Primary Examiner, Art Unit 3623